

OCT 04 2002

GROUP 1600

A1 could

additional and/or modified genes are referred to herein collectively as "transgenes". Over the last fifteen to twenty years several methods for producing transgenic plants have been developed, and the present invention, in particular embodiments, also relates to transgenic versions of the claimed hybrid maize line 39R62.

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In the Claims

Please amend the following claims:

A2

6. (Amended)

The tissue culture according to claim 5, the cells or protoplasts being from a tissue selected from the group consisting of leaves, pollen, embryos, roots, root tips, anthers, silks, flowers, kernels, ears, cobs, husks, and stalks.

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8. (Amended)

The maize plant of claim 2 wherein said plant has been manipulated to be male sterile.

A4

10. (Amended)

The method of claim 9 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

11. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 2, wherein said maize plant has derived at least 50% of its ancestral alleles from 39R62 and is capable of expressing a combination of at least two 39R62 traits selected from the group consisting of: excellent yield potential, good dry down, good stalk strength, good test weight, good early growth, above average Northern Leaf Blight resistance, above average Eyespot resistance, above average Common Rust tolerance, above average Gibberella Ear rot tolerance, favorable to Minnesota, Wisconsin, Michigan, New York, Vermont, North Dakota, South Dakota, Wyoming, Washington, Oregon, Montana, Utah, Idaho, and Ontario and Quebec Canada, and a relative maturity

of approximately 81 based on the Comparative Relative Maturity Rating System for harvest moisture of grain.

12. (Amended)

The hybrid maize plant according to claim 2, wherein the genetic material of said plant contains one or more transgenes.

14. (Amended)

The method of claim 13 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

15. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 12, wherein said maize plant has derived at least 50% of its ancestral alleles from 39R62 and is capable of expressing a combination of at least two 39R62 traits selected from the group consisting of: excellent yield potential, good dry down, good stalk strength, good test weight, good early growth, above average Northern Leaf Blight resistance, above average Eyespot resistance, above average Common Rust tolerance, above average Gibberella Ear rot tolerance, favorable to Minnesota, Wisconsin, Michigan, New York, Vermont, North Dakota, South Dakota, Wyoming, Washington, Oregon, Montana, Utah, Idaho, and Ontario and Quebec Canada, and a relative maturity of approximately 81 based on the Comparative Relative Maturity Rating System for harvest moisture of grain.

16. (Amended)

The hybrid maize plant according to claim 2, wherein the genetic material of said plant contains one or more genes transferred by backcrossing.

18. (Amended)

A6  
The method of claim 17 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

19. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 16, wherein said maize plant has derived at least 50% of its ancestral alleles from 39R62 and is capable of expressing a combination of at least two 39R62 traits selected from the group consisting of: excellent yield potential, good dry down, good stalk strength, good test weight, good early growth, above average Northern Leaf Blight resistance, above average Eyespot resistance, above average Common Rust tolerance, above average Gibberella Ear rot tolerance, favorable to Minnesota, Wisconsin, Michigan, New York, Vermont, North Dakota, South Dakota, Wyoming, Washington, Oregon, Montana, Utah, Idaho, and Ontario and Quebec Canada, and a relative maturity of approximately 81 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, wherein a sample of a maize variety 39R62 was deposited under ATCC Accession Number \_\_\_\_\_.

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21. (Amended)

The maize plant of claim 20 wherein said maize plant has been manipulated to be male sterile.

A8  
23. (Amended)

The method of claim 22 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

24. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 20, wherein said maize plant has derived at least 50% of its ancestral alleles from 39R62 and is capable of expressing a combination of at least two 39R62 traits selected from the group consisting of: excellent yield potential, good dry down, good stalk strength, good test weight, good early growth, above average Northern Leaf Blight resistance, above average Eyespot resistance, above average Common Rust tolerance, above average Gibberella Ear rot tolerance, favorable to Minnesota, Wisconsin, Michigan, New York, Vermont, North Dakota, South Dakota, Wyoming, Washington, Oregon, Montana, Utah, Idaho, and Ontario and Quebec Canada, and a relative maturity of approximately 81 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, wherein a sample of a maize variety 39R62 was deposited under ATCC Accession Number \_\_\_\_\_.

25. (Amended)

The hybrid maize plant according to claim 20, wherein the genetic material of said plant contains one or more transgenes.

27. (Amended)

The method of claim 26 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

28. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 25, wherein said maize plant has derived at least 50% of its ancestral alleles from 39R62 and is capable of expressing a combination of at least two 39R62 traits selected from the group consisting of: excellent yield potential, good dry down, good stalk strength, good test weight, good early growth, above average Northern Leaf Blight resistance, above average Eyespot resistance, above average Common Rust

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tolerance, above average Gibberella Ear rot tolerance, favorable to Minnesota, Wisconsin, Michigan, New York, Vermont, North Dakota, South Dakota, Wyoming, Washington, Oregon, Montana, Utah, Idaho, and Ontario and Quebec Canada, and a relative maturity of approximately 81 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, wherein a sample of a maize variety 39R62 was deposited under ATCC Accession Number \_\_\_\_\_

29. (Amended)

The hybrid maize plant according to claim 20, wherein the genetic material of said plant contains one or more genes transferred by backcrossing.

31. (Amended)

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The method of claim 30 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

32. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 29, wherein said maize plant has derived at least 50% of its ancestral alleles from 39R62 and is capable of expressing a combination of at least two 39R62 traits selected from the group consisting of: excellent yield potential, good dry down, good stalk strength, good test weight, good early growth, above average Northern Leaf Blight resistance, above average Eyespot resistance, above average Common Rust tolerance, above average Gibberella Ear rot tolerance, favorable to Minnesota, Wisconsin, Michigan, New York, Vermont, North Dakota, South Dakota, Wyoming, Washington, Oregon, Montana, Utah, Idaho, and Ontario and Quebec Canada, and a relative maturity of approximately 81 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, wherein a sample of a maize variety 39R62 was deposited under ATCC Accession Number \_\_\_\_\_.

Please add the following new claims:

33. (New)

1711  
A method of making a hybrid maize plant designated 39R62 comprising:  
crossing an inbred maize plant GE570800, deposited as \_\_\_\_\_ with a second inbred maize plant  
GE533276, deposited as \_\_\_\_\_; and  
developing from the cross a hybrid maize plant representative seed of which having been  
deposited under ATCC Accession Number \_\_\_\_\_.

34. (New)

A method of making an inbred plant comprising:  
obtaining a hybrid maize plant 39R62 and  
generating from said hybrid maize plant a parental inbred parent line, said line selected  
from the group consisting of GE570800 deposited as \_\_\_\_\_ and GE533276 deposited as  
\_\_\_\_\_.

35. (New)

The method of claim 34 wherein said generating step comprises using double haploid  
breeding.

36. (New)

A method of producing a 39R62 progeny maize plant in a plant breeding program  
comprising:  
obtaining the maize plant, or its parts, produced by growing the hybrid maize seed designated  
39R62,  
utilizing said plant or parts thereof as a source of breeding material, and preferentially selecting  
for a 39R62 progeny plant with at least two desirable morphological or physiological  
characteristics of the plant or parts thereof produced by growing the hybrid maize seed  
designated 39R62,  
said at least two morphological or physiological characteristics selected from the characteristics  
listed on the chart in Tables 1-4, thereby producing said progeny maize plant.

37. (New)

The 39R62 progeny maize plant produced by the method of claim 36, wherein the pedigree of said 39R62 progeny maize plant has two or less cross-pollinations to a maize plant other than the hybrid maize seed designated 39R62.

38. (New)

The method of claim 36 wherein the maize plant breeding program comprises one or more of the following: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, making double haploids and transformation techniques.

39. (New)

A method for producing a population of 39R62 progeny hybrid maize plants comprising:

- (a) obtaining a first generation progeny maize seed produced by crossing the maize plant produced by growing the hybrid maize seed designated 39R62 with a second maize plant;
- (b) growing said first generation progeny maize seed to produce  $F_1$  generation maize plants and obtaining self-pollinated seed from said  $F_1$  generation maize plants;
- (c) growing said self-pollinated seed to produce  $F_2$  maize plants and obtaining further self-pollinated seed from said  $F_2$  maize plants; and
- (d) repeating the steps of growing and harvesting successive filial generations by selecting for morphological and physiological traits in Table(s) 1-4 to obtain a population of 39R62 progeny hybrid maize plants.

40. (New)

The population of 39R62 progeny hybrid maize plants produced by the method of claim 39, said population, on average, deriving at least 50% of its ancestral alleles from 39R62.

41. (New)

A hybrid seed selected from the population of 39R62 progeny hybrid maize plants produced by the method of claim 39, said hybrid seed deriving at least 50% of its ancestral alleles from 39R62.

## 42. (New)

The method of claim 39, further comprising applying double haploid methods to said F<sub>1</sub> generation maize plant or to a successive filial generation thereof.

## 43. (New)

*Advised*  
A method of producing an hybrid maize plant derived from the maize variety 39R62, the method comprising the steps of:

- (a) preparing a progeny plant derived from maize variety 39R62 by crossing a plant of the maize variety 39R62 with a second maize plant, wherein a sample of the seed of the maize variety 39R62 was deposited under ATCC Accession No. \_\_\_\_\_;
  - (b) crossing the progeny plant with itself or a second plant to produce a seed of a progeny plant of a subsequent generation;
  - (c) growing a progeny plant of a subsequent generation from said seed and crossing the progeny plant of a subsequent generation with itself or a second plant; and
  - (d) repeating steps (b) and (c) for an additional 3-5 generations to produce a hybrid maize plant derived from the hybrid variety 39R62.
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